

is terminated in accordance with paragraphs (d)(2)(iii) (A) through (D) of this section.

(A) The vehicle passes the idle mode and the test is immediately terminated if, prior to an elapsed time of 30 seconds (mt=30), measured values are less than or equal to 100 ppm HC and 0.5 percent CO.

(B) The vehicle passes the idle mode and the test is terminated at the end of an elapsed time of 30 seconds (mt=30), if prior to that time the criteria of paragraph (d)(2)(iii)(A) of this section are not satisfied and the measured values are less than or equal to the applicable short test standards as determined by the procedure described in paragraph (a)(2) of this section.

(C) The vehicle passes the idle mode and the test is immediately terminated if, at any point between an elapsed time of 30 seconds (mt=30) and 90 seconds (mt=90), measured values are less than or equal to the applicable short test standards described in paragraph (a)(2) of this section.

(D) The vehicle fails the idle mode and the test is terminated if none of the provisions of paragraphs (d)(2)(iii) (A), (B), and (C) of this section is satisfied by an elapsed time of 90 seconds (mt=90).

[58 FR 58403, Nov. 1, 1993, as amended at 61 FR 40947, Aug. 6, 1996]

#### § 85.2214 Two speed idle test—EPA 81.

(a)(1) *General calendar year applicability.* The test procedure described in this section may be used to establish Emissions Performance Warranty eligibility through December 31, 1993, except as allowed in paragraph (a)(2) of this section.

(2) *Special calendar and model year applicability.* (i) The extended applicability described in paragraphs (a)(2) (ii) through (iv) of this section is restricted to 1995 and earlier model year vehicles or engines.

(ii) In a state for which the Administrator has approved a State Implementation Plan revision providing for the implementation of a basic decentralized program meeting the requirements of part 51, subpart S of this chapter, according to the schedule specified in § 51.373 of this chapter, the test procedure described in this section may be

used to establish Emissions Performance Warranty eligibility through December 31, 1993.

(iii) In a state for which the Administrator has approved a State Implementation Plan revision providing for the implementation of a basic centralized program meeting the requirements of part 51, subpart S of this chapter, according to the schedule specified in § 51.373 of this chapter, the test procedure described in this section may be used to establish Emissions Performance Warranty eligibility through June 30, 1994.

(iv) In a state for which the Administrator has approved a State Implementation Plan revision providing for the implementation of an enhanced program meeting the requirements of part 51, subpart S of this chapter, according to the schedule specified in § 51.373 of this chapter, the test procedure described in this section may be used to establish Emissions Performance Warranty eligibility through December 31, 1995.

(b) *General requirements.* Vehicles shall be tested in as-received condition. Engines shall be at normal operating temperature and not overheating (as indicated by gauge, warning light or boiling radiator) with all accessories off.

(c) *Test sequence.* (1) Analyzers shall be warmed-up, in stabilized operating condition and adjusted as required in § 85.2217.

(2) Attach tachometer pick up.

(3) With engine idling and transmission in neutral, the sample probe shall be inserted into the tailpipe. Record exhaust concentrations after stabilized readings are obtained or at the end of 30 seconds, whichever occurs first. This process shall be repeated as necessary for multiple exhaust pipes, or hardware which is capable of simultaneously sampling vehicles with multiple tailpipes may be used. Neither multiple readings nor simultaneous sampling hardware is necessary for exhaust systems in which the exhaust pipes originate from a common point.

(4) The engine speed is increased to 2500±300 rpm, with transmission in neutral. Record exhaust concentrations after stabilized readings are obtained or at the end of 30 seconds, whichever

occurs first. Repeat as specified in paragraph (c)(3) of this section for multiple exhaust pipes, if necessary.

(5) The engine speed is reduced to free idle with transmission in neutral. Record exhaust concentrations after stabilized readings are obtained or at the end of 30 seconds, whichever occurs first. Repeat as specified in paragraph (c)(3) of this section for multiple exhaust pipes, if necessary.

(6) For vehicles with multiple exhaust pipes, the separate results from each pipe for each mode (as specified in paragraphs (c)(3), (4), and (5) of this section) must be numerically averaged for each pollutant, unless hardware which is capable of simultaneously sampling multiple tailpipe vehicles has been used.

(7) The idle mode final results shall be the lowest HC and lowest CO readings from steps (3) and (5).

(d) Exhaust concentration measurements from both the idle mode and the high-speed mode are not required. The short test may be used to evaluate emissions from either mode alone or from both modes, the choice being made by the jurisdiction implementing the inspection program. If exhaust concentrations are not measured on a given mode, the vehicle must be operated at the specified test condition for 15 to 30 seconds. The final idle mode, described in paragraph (c)(5) of this section, may be omitted if only high-speed mode exhaust concentrations are to be measured or if the vehicle is below idle standards on the first measurement, paragraph (c)(3) of this section. The high-speed mode may be omitted if only idle mode exhaust concentrations are to be measured and if the vehicle is below idle standards on the first measurement.

[49 FR 24323, June 12, 1984. Redesignated and amended at 58 FR 58403, 58404, Nov. 1, 1993]

#### § 85.2215 Two speed idle test—EPA 91.

(a) *General requirements*—(1) *Exhaust gas sampling algorithm*. The analysis of exhaust gas concentrations begins ten seconds after the applicable test mode begins. Exhaust gas concentrations must be analyzed at a rate of once every 0.75 second. The measured value for pass/fail determinations is a simple

running average of the measurements taken over five seconds.

(2) *Pass/fail determination*. A pass or fail determination is made for each applicable test mode based on a comparison of the short test standards contained in §§ 85.2203 and 85.2204, and the measured value for HC and CO as described in paragraph (a)(1) of this section. A vehicle passes the test mode if any pair of simultaneous values for HC and CO are below or equal to the applicable short test standards. A vehicle fails the test mode if the values for either HC or CO, or both, in all simultaneous pairs of values are above the applicable standards.

(3) *Void test conditions*. The test immediately terminates and any exhaust gas measurements are voided if the measured concentration of CO plus CO<sup>2</sup> falls below six percent or the vehicle's engine stalls at any time during the test sequence.

(4) *Multiple exhaust pipes*. Exhaust gas concentrations from vehicle engines equipped with multiple exhaust pipes must be sampled simultaneously.

(5) The test is immediately terminated upon reaching the overall maximum test time.

(b) *Test sequence*. (1) The test sequence consists of a first-chance test and a second-chance test as described in paragraphs (b)(1) (i) and (ii) of this section.

(i) The first-chance test, as described under paragraph (c) of this section, consists of an idle mode followed by a high-speed mode.

(ii) The second-chance high-speed mode, as described under paragraph (c) of this section, immediately follows the first-chance high-speed mode. It is performed only if the vehicle fails the first-chance test. The second-chance idle mode, as described under paragraph (d) of this section, follows the second-chance high-speed mode and is performed only if the vehicle fails the idle mode of the first-chance test.

(2) The test sequence begins only after the requirements listed in paragraphs (b)(2) (i) through (iv) of this section are met.

(i) The vehicle is tested in as-received condition with the transmission in neutral or park and all accessories